

## [LOG 5] LOAD SECUREMENT AND PACKAGING METHODS TO REDUCE RISK OF DAMAGE FOR CARGO FREIGHT IN TRUCK

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### ABSTRACT

*This paper discusses the load securement and packaging method to reduce risk of damage for cargo freight in trucks. Cargo that is improperly secured can cause severe accidents and lead to the loss of cargo, the loss of vehicles, or cause environmental hazards. However, improper loading and lack of load securement inside the trailer can result in damage to both packages and the products they contain, and can lead to subsequent injury during unloading. In addition, the packaging method is the technology of enclosing or protecting products for distribution, storage, sale, and use, packaging also can be described as a coordinated system of preparing goods for transport, warehousing, logistics, sale, and end user. The objective of this study is to determine whether the relationship between load securement and packaging method will affect risk of damage for cargo freight in truck. The current study of utilised qualitative research approach that is interview with operation manager in freight related company. The findings is discussed and the recommendation and future research is outlined.*

**Keywords:** *load securement, packaging method, trailer, truck*

### INTRODUCTION

Today's packaging should be improve its competitiveness and sustainability by eliminating activities that do not add value and by developing innovations in processes and products (Garcia-Ark, 2011). Packaging is one of main factor of logistics which logistics exercise that it impels and advances the framework smoothly and lead to extraordinary achievement where all high quality merchandise and product are made. Normally packaging is not included as a static element in product life cycle so it leads to bad packaging, but rather it has to be considered in a dynamic way in order to achieve a continuous improvement packaging (Garcia & Carlos, 2008). Along with this scenario chasing the efficiency and sustainability through the inventory, the company must develop an action that effect positively both strategic and operational part of the process. However, such method concentrate on assets and saving cost through flat packaging, environmental smart designs and such designs which eliminates the large packaging materials while cutting the inventory space and allowing for lean type of logistics. In many modern days organizations where packaging is utilized in their product designs modern methods of packaging have been generally embraced over the years to save expenses and reduce the waste. An example is IKEA, the Swedish

furniture company which has over the years turned to flat packaging for all its products. The company claims that flat packaging has helped to reduce its material resources while overwhelmingly cutting down on wastes (Marshall, 2012). Damage on goods and accident usually happened during loading process and damage also can happened because of low quality of packaging. For example, in 1991 a truck driver was transferring the goods from the distribution centre to the Wal-Mart's stores in Fayetteville, N.C. During the unloading process, the goods with 1,000 to 1,500 pound weight fell on the driver. He suffered internal head injuries, cognitive damage, cervical damage, a rotator cuff injury, and numerous other physical, mental and emotional problems. Medical expenses alone total of \$116,000. The driver sued Wal-Mart because of the accident that happened to him. Based on the accident happened, it had showed that the load securement is very important to ensure the safety of the worker and also the goods that want to be transfer.

## **PROBLEM STATEMENT**

Many company and forwarder or carrier that have been assigned to carry the goods can't run from the cargo damage that happened during the loading, transfer, and unloading process of the goods. The risk of goods that being transport will damage during the journey will and always be the treat to the company or the carrier. The amount of risk can be minimize or maximize and it is depend on how the company or the carrier preparation to face the risk of goods damage. The damage of the goods that delivered will cost loss to the company and also it will caused bad reputation to the carrier service company because they will lost their customer trust to the service. There are several example of the real case happened in the Europe country that have been publish by the EU-OSHA - European Agency for Safety and Health at Work. The first case is unbalanced load. The driver were assigned to deliver only some of wooden pallets and he asked the forklift driver to store the wooden pallets at the front wall of the truck. The truck have many space left but the pallets were only item that he had been assigned to be deliver. The pallets were secured and he began his journey. On the highway, the truck suddenly start to skid and turned over. The reason why the accident happened was the load was secured but not balanced. The unbalanced loading caused the trailer to skid and the lorry to overturn. The truck should be checked by the specially trained worker before the journey begin and the driver and the forklift worker must have been trained and have a right instruction how load the vehicle. Based on the true scenario happened in the Malaysia, many cases reported by the medias. For example, the cases reported between POS Malaysia and Kementerian Dalam Negeri which exposes the damages happened to the goods transferred to the end client. The client have purchased the goods from abroad which is DVD player. When the item arrived in Malaysia, the clients have choose POS Malaysia as the currier to deliver the goods to the clients. The problem and issue happened when the goods have arrived to the clients, the goods was plastic wrapped and it's have been open. The goods also has been damage and unplayable. This issue shouldn't happened because no one have the right to unwrap the goods as long as the goods legal in the Malaysian law. In this case, load securement was on the low level and it has cause problem to the customers.

## **LITERATURE REVIEW**

Johnson and Wood's definition (Tilanus, 1997) says there are 'five important key terms', which are inbound logistics, logistics, materials management, physical distribution, supply-chain management, and physical distribution to interpret. Logistics describes the whole step of resources and products moving into, through, and out of firm. Inbound logistics covers the movement of material received from dealers. Trucking in logistics activities is the research and development of trucking operations. Naturally, the logistics of trucking take into account all the factors involved in the transportation of goods by truck with the goal of maximize productivity and efficiency. This may include the planning and most efficient routes for truck driver. The selecting ideal fuel is the types according to market trends by choosing the best kind of trucks for the particular task, and hiring a skill full staff of truck drivers. In most industrial nations, usually trucks are the primary means for the movement of goods and commercial transportation. By the way, if the excellent of trucking logistics not only helps the individual businesses to achieve the success, but also can contribute to the better advantage of a country economy. Economic predictor's view of the transportation as a higher expense for any business, meaning the good logistics may dramatically minimize the economic expenses. Good planning can reduce the unnecessary costs that could fix the success of business. Road safety is accentuated to certify the secure transportation of goods and the safety of the both truck drivers and systematic commuters by planning transport routes for detailed types of the loads. Long hauling and heavy hauling are increase demand by aspects of trucking; good logistics typically observes all the factors to help facilitate these more hard types of transport. Typically, the technology that have been use allow certain trucking companies not only to earn profit in the area of international trade, but results in a mutually profitable competitive advantage for suppliers and buyers (Ko, Olfman, & Choi, 2009).

## **DATA ANALYSIS AND FINDINGS**

### **Thematic analysis**

Basically, the thematic analysis have a benefit and the benefit itself is flexibility. Given the advantage of flexibility is the important that are clear and there are not trying to limit this flexibility. Besides that, the clear of absence and guideline of thematic analysis means that the anything goes analysis of qualitative research. What is important is that as well as applying a method to data, researchers make their (epistemological and other) assumptions explicit (Holloway & Todres, 2003). Qualitative psychologists need to be clear about what they are doing and why, and include the often-omitted 'how' they did their analysis in their reports (Attride-Stirling, 2001). By stating those information above, it is obvious to show that the thematic analysis has been chosen in this research paper. In additional, the theme that we are been use is load securement and packaging method.

## **DISCUSSION OF FINDINGS**

We are interviewing two different company with different process and system in handling goods. Company A are handling fresh goods in a cold chain while Company B handling electrical and electronic goods. These two company is incomparable due to

the different process and system in handling goods, so this research paper is not explaining the different between two company, but more on explaining on the how each company handling the process and system. Because of we are using qualitative method, so basically we are undergoing interview session and not a questionnaire method. Our discussion is basically more on the experience and actual situation that happen on the company itself regarding the major issue that we discussing for which is load securement and packaging method which may reduce the risk of damage for cargo freight in truck. The question that have been asking throughout the session is prepared and the answer have been recorded for study purpose.

## **Results**

### *1. What are the main business that your company involved in?*

Basically, our reason why we choose these two company is because they involved in two different type of business. So, we can find the different and the similarity on how they handle the risk of damage of their goods and product. Company A are involved in the warehousing service. They are providing temperature-controlled storage and logistics services to processors, distributors, food service providers and retailers across all over Malaysia. Company B are involved in electrical wiring product and supply to the local and foreign customer. Company B it is one of the branch from the main company and company B is the international company based in Australia.

### *2. What types of products that your company usually manage and transfer?*

As we can see from the first question one, we know that this two company handle two different type of goods and product. Company A usually will handle and stored the fresh goods. They will store their customer goods in their warehouse and follow their customer needs. They need to keep the freshness of the goods and prevent the goods from any infection. To keep the freshness the goods, they need to maintain the temperature of the good. The temperature of the goods must be maintain on every process such as loading, transferring, unloading and the other process. Company A also usually will manage the goods in the bulk form. Company B are managing the electrical and electronic products and parts. They using the paper wrapping on the products and parts to prevent from any damage. The company will manage their products and the parts in the bulk form and also loose item and it is depend on the needs of their customer.

### *3. What type of handling techniques or equipment to load and unload goods/cargo?*

In the handling techniques or equipment to load and unload goods or cargo process, these two company use almost the same technique and equipment to handle the goods. Both company use forklift during the load, unload and also during picking process in the warehouse. They use the different type of forklift for the warehouse and for the loading bay. In the warehouse, they are using the forklift that can resist the heavier goods and taller forklift to pick the product and parts that have been stored in the high rack. Using the work forklift can cause damage to the goods and also the facilities. For the loading bay, they are using the normal forklift because the forklift will be used only for the loading and unloading process only.

### *4. For sure your company using palletization. Can I know what type of pallet that your company use in handling the products?*

Usually, many forwarding company or warehouse company will the standard pallets to place the product. In 2011, the foreign company Modern Material Handling have done a survey on their customer. The result from the survey, 90% of the respondents would

use the wooden pallets as they pallets for the service. Other answer from the survey are the customer would use the plastic, wood composite, paper cardboard/corrugated and metal (aluminum and steel). In the palletization part, there is similarity in these two company, they use EUR size pallet. Most of their goods will use the euro size pallet with the measurement 800mm x 1,200mm for the storing process and also transferring process. They mostly using the euro size pallet because of the customer request and also it is the international standard for the regular goods. For company A, they also using the hardwood block pallets, plastic pallets and, fiber pallets metal pallets. These type of pallet will be use based on customer request and needs. For company B, instead of euro size pallets, they also using the large size pallets with the measurement 1,200 x 1,200. These pallets will be use for the heavy weight of product and part and also when there a request from the customer.

5. *Who are the person that monitor during process of loading and unloading to ensure the procedure is followed?*

Based on Kiberley Ports authority (2016), Operations manager will set the procedure and he or she must ensure the procedure is developed and reviewed with adequate consultation. Supervisor or person in charge will ensure all the workers will follow all the procedure being follow. For company A, the person who will in charge during the loading and unloading process is the warehouse manager. The warehouse manager will be responsible for all the process during the load and unload process. For company B, the warehouse finish goods leader or the warehouse people will ensure all the worker were following all the procedure. By this step, the risk of the goods or products damage can be reduce.

6. *Is there any procedure must be followed during the loading and unloading process and what is the procedure used?*

Regarding to the Australian Government (2008), we can classify the the procedure that must be followed during loading and unloading process in to subcategories. This includes load and unload goods/cargo, secure and protect the load and lastly is the complete documentation. Under each category, there are criteria must be concerned. For example, under load and unload goods, load is packed or unpacked to make safe and effective use of available places. For secure and protect the load, the distribution of the load is checked to ensure that it is even legal and within safe working capacity. Lastly, all required documentation for the goods is completed in accordance with workplace requirements including the ADG Code where applicable.

7. *What is type of truck usually being use by your company to deliver the products to the retailer?*

Observations of companies that have differences in terms of activity and process goods produced shows are usually considerably using the same type of truck is not considered when delivering the goods within the distance. Delivery of goods which involve short distances, the user taps the truck 3 tons used often in close proximity customer will order goods on a daily basis. Meanwhile, a variety of customer orders from around the peninsular will be transmitted using a 5-ton truck. For areas beyond the boundaries of Malaysia such as Singapore and Thailand, the use of container is needed because customers usually from the outside will be ordered in large.



8. *How do you maintain the condition of the product delivered from the warehouse to the customer?*

Most companies have storage conditions are identified by their labelling. If not, it is expected that the conditions for the storage of goods referred to in the definition given by the overall communications and the requirements of item storage temperature and humidity in the storage, packaging, storage and labelling. In cases where additional information about the desired packaging and storage specific statements can be written in paragraph labelling, packaging and storage. The observations of variations in temperature must be stored to be completed within a period of time to conditions of temperature and meaningful profile, such as temperature or conditions in different parts of the storage fixed. The data and provides information about the various products and should not be saved.

9. *Do the length of the trip in order to deliver the goods will effect condition of the products?*

According to Theo (2026) the most important impact of involving distance and convenience are the kind of damage. Distance is usually the most basic conditions involving the transportation costs. It is increasingly difficult to separate trade, the more friction that distance is important. It can be expressed in terms of length, time, the economic costs or the amount of energy used. It varies greatly according to the type of transport modes involved and efficiency of certain transport routes. Landlocked country tend to have higher transport costs, often twice, because they do not have direct access to other transportation. Geographical impact on the structure of the items can be expanded to include some rate zone, such as the one for local, one for country and one for export.

10. *Is there any damage that frequently happen in your company during loading and unloading the goods? If the damage occur, is there any specific steps will be taken to overcome the problems?*

The loading or unloading of the truck seemed to be a simple and easy process and is in the most cases. After all, it happens thousands of times every day in every corner of this country. Requirements that would have to have some twists that affect liability issues. Safety of the transport sector is largely regulated by the Government of Malaysia, but OSHA also has something about them. According to regulations, the transport company and the driver has ultimate responsibility for the safe operation of the truck, but the general rules do not apply to the person sending or receiving the goods in the truck (sender and receiver). OSHA, said: "OSHA regulations regarding the safety and health of workers and the employers' responsibility for their safety in warehouses, docks, construction sites and other places, will provide for truckers and pickup loads by country. Although OSHA self-employed truck driver who work the truckers delivering goods and workers who check the goods receipt is not regulated. ".

11. *Have your company ever got any complain from your client that their good are damage/ broken during the delivery? Is there any specific step or s.o.p to solve the problem?*

There are several things that affect the reputation of the brand influence on how it responds to complaints and dissatisfied customers. Customer service has always been an important role in the development of the brand been faithful, in fact, is the business model that allows businesses to thrive. And now that the Internet and social networks to give people their own platform to provide information on their daily lives known, it

is critical for companies that offer good customer service. Regarding the article published by The Australian Competition and Consumer Commission, the fee includes the cost to you is caused by a problem with a product or service. This is usually the financial costs, but may include other costs such as time or productivity loss. It can be difficult to put a dollar amount of compensation for damage or loss. Compensation in the position to convert would have if the product or service that has what should be covered by the consumer warranty.

## **CONCLUSION**

The main element of the packaging method and load securement is familiar element of the business by the most company. However, the main of packaging method and load securement has to been through the budget to allocate the cost that will involve in damage or repairing the goods. This has to be considered. Basically, to avoid this problems happen to the company, it has to be necessary to identity the bad of packaging and see this the packaging of goods will effects the customer satisfaction. In additional, by the understanding the method of packaging and load securement in logistics management, we can obtain the greatest succeed in distribution center. In logistics management, the part of packaging method and load securement have to be good because it will provide a better productivity and efficiency in handling. Besides that, the concept of packaging and load securement activities that exists in the companies is not based on damage prevention.